

Wildlife Express

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LEARNING ABOUT IDAHO'S WILDLIFE

Photo: CC-BY Idaho Fish and Game

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LEARNING

ABOUT THE SECRET LIVES OF WILDLIFE



Idaho Fish and Game's job is to preserve, protect, perpetuate and manage Idaho's wild animals. There are over 10,000 different kinds of animals that live in Idaho. That's a big job!

We can't help or manage animals unless we know what they need to survive. That means gathering a lot of information. All animals need food, water, shelter and space. These things make up an animal's habitat or home. We also need to know what an animal does in its habitat. Every animal has a specific job to do to keep the habitat healthy. This is called the animal's niche (nich). Some animals, like turkey vultures, clean things up. Turkey vultures and other scavengers eat dead animals.

Fish and Game works to have wildlife numbers that are in the best interests of wildlife and people. We make sure that there are enough members of a species, but not too many. If there are too many animals, they may have a hard

time finding food. They could wander into places they do not belong, like your neighborhood. Diseases are also more likely to spread when there are large numbers of animals in a small space. These are just a few reasons why there are hunting seasons. By hunting, people help control wildlife numbers and put food on the table to feed their families.

Once we learn about the needs of animals, we can predict how certain actions may affect them. This information is given to people who make decisions about how the land is used.

Wild animals cannot tell us what they need or how they are doing. How does Fish and Game learn about wildlife? Some ways to study animals haven't changed much through the years, like observing animals in their habitats. As technology grows, so do the ways we study animals. In this issue of *Wildlife Express*, we'll learn some of the methods and tools used to discover the secret lives of wildlife.



WAYS WE LEARN ABOUT WILDLIFE



HANDS-ON CAPTURES

When many people think about studying animals, capturing them is usually what comes to mind. Cages and nets are often used.



Capturing and sedating animals allows Fish and Game to get a lot of information, such as weight, size, age and health. A good layer of fat will help an animal survive Idaho's snowy, cold winters. Blood and tissue samples may be taken to test for diseases. Scientists may also do genetic testing. This is when scientists look at the DNA in cells. This information helps people see how animals in an area are related to each other. Fish and Game must also capture animals to fit them with tracking devices, like collars.

A lot of information can be gathered when animals are captured and sedated, but there are also risks. Animals may get stressed or feel threatened or scared. They could hurt themselves or the people studying them by struggling, kicking or biting. Animals might also react to the medications used to make them calm. The benefits and risks of capturing animals are carefully weighed before a decision is made. Sometimes the dangers to animals or people are too great. Other ways of gathering information must be used to keep everyone safe.

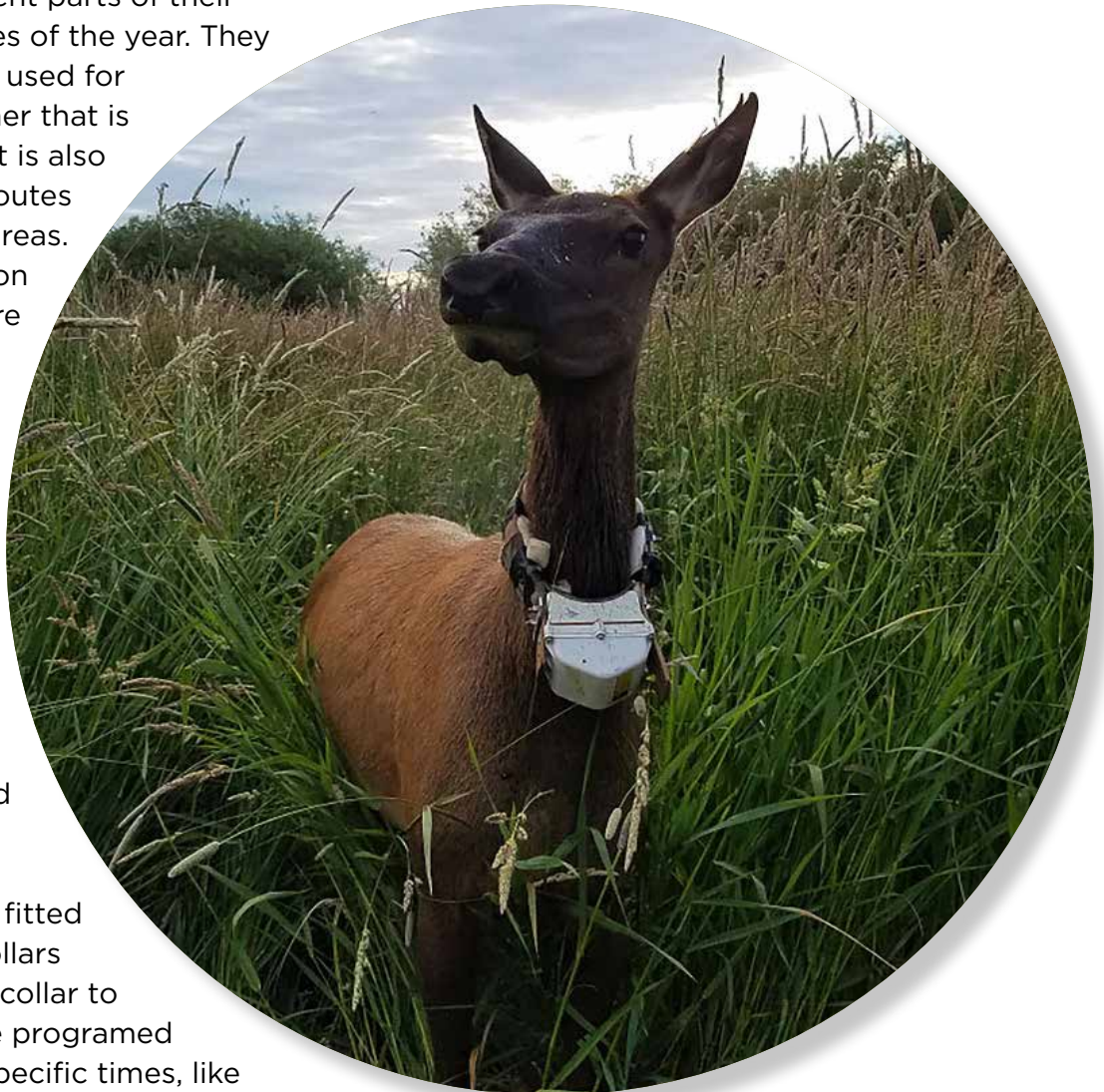
TRACKING TOOLS

Animals often use different parts of their habitats at different times of the year. They may have an area that is used for having babies and another that is used during the winter. It is also important to know the routes used to move between areas. These are called migration routes. Many methods are used to track animals through their habitats.

Have you seen a deer or elk wearing a collar? Radio collars send out signals that are picked up by antennas. Researchers need to be fairly close to a collar to pick up its signal. Bad weather or rough ground can make this difficult.

Today, animals are often fitted with GPS collars. GPS collars send the location of the collar to satellites. Collars may be programmed to send information at specific times, like every 12 hours. Information is then sent straight to computers. Researchers can get the location of animals right at their office desks! GPS collars give an accurate picture of how animals use habitats throughout the year.

Information from collars is also used to keep an eye on deer and elk survival. When a collar has not moved for a certain amount of time, it sends out a special signal. This alerts researchers that the animal wearing the collar



has probably died. If researchers can quickly get to the location of the collar, they may be able to figure out what caused the animal's death. Diseases, accidents or predators can all kill animals. This information helps biologists figure out how many animals are living in an area. They may also predict how many young animals survived the winter, and what affected their survival.

NO COLLAR ON ME ...



Photos: CC-BY Idaho Fish and Game

Some animals can't wear collars, so trackers are placed inside the animals' bodies. Fishes are a great example. Small electronic tags, called PIT tags, are placed inside the body. Each tag has a unique number that can be picked up by a sensor. Some streams have sensors that detect a tag when a fish swims near it, or tags are scanned by hand when fish are recaptured.

Biologists have discovered some amazing fish migrations using tags. A bull trout that was first tagged in 2019 in the Hells Canyon of the Snake

River, turned up a few months later, in May and June, in northeast Oregon. Then in July, the fish swam more than 186 miles to spawn in central Idaho. During the winter of 2020, the fish was recaptured at the same spot in Hells Canyon where it was first tagged in 2019. By May 2020, the trout was back in Oregon. That's impressive!

Collars, tags and other tracking tools, help researchers understand how animals interact with and use their habitats.

HAIR SNARES

Hair snares are a great way to collect information on animals. Using hair snares is also safer, because animals are not captured or medicated. Hair snares just grab a few hairs as animals brush up against them. Often without the animals even knowing they left a bit of themselves behind.

One type of hair snare uses gun cleaning bushes placed in a tree or collar on a tree. Bait, usually meat, is placed above the brushes. As animals, like a wolverine or fisher, climb up to eat the bait, they rub against the brushes. Another type of hair snare is made of strong cardboard folded into a triangle. At each end of the triangle, are stiff brushes; bait is placed in the middle. As animals reach in to grab the meat, they rub against the brushes and leave some hair behind. This type of hair snare works well on smaller mammals, like American martens. Sometimes biologists will set barbed wire fences around stinky bait to snag hairs. This is a great setup for bears.



Many things can be learned from hair and the DNA it contains. For example, biologists can tell the species of the animal and if it is male or female. They can recreate family trees by seeing which animals share DNA.



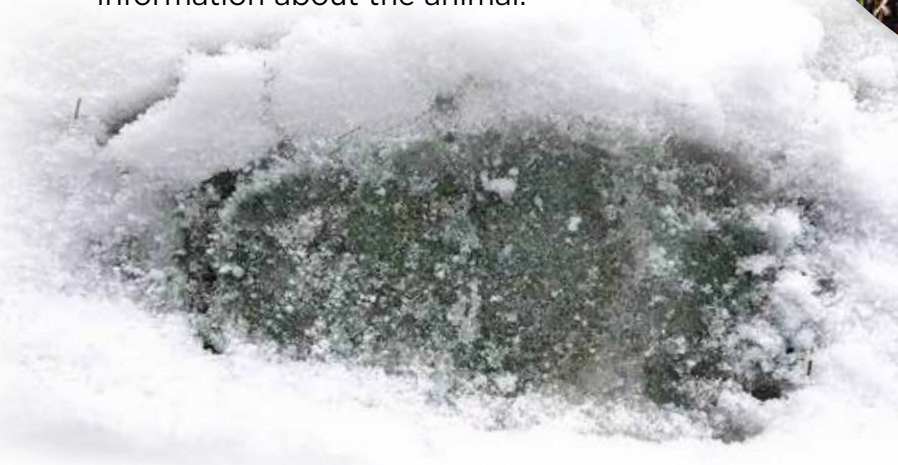
LOOKING FOR AND COLLECTING SIGNS

A tried-and-true way to learn about animals is to go out in the outdoors and look for signs where they live. Animals leave behind all kinds of information to collect. Footprints, nests, chew marks and burrows are just some of the signs to find.

Biologists may collect animal scat. Scat is the fancy word for animal poop. Scat tells us what an animal has been eating. Scat that contains hair and bones means another animal was eaten. This scat was probably left by a predator or scavenger. Scat with many seeds was most likely left by an herbivore. Even the size and shape of scat are important clues. Scat can also contain DNA, giving researchers lots of information about the animal.



BEAR SCAT AND GRIZZY TRACK



AIRCRAFT

Helicopters and airplanes have been used for many years to find animals in their habitats. Biologists fly over a group of animals, take pictures and count all the animals they can see in a certain area. These numbers are put into a computer program that estimates how many animals live there.

Flights often take place during the winter since animals are easier to see against the white snow. Flying over high mountains in the middle of winter can be very dangerous. It can also cost a lot of money.

Today, another type of aircraft is also being used to count wildlife: drones. Drones are small and unmanned. Wildlife is less likely to get startled, and biologist don't have to make risky flights. Drones have high-resolution cameras and sensors that offer opportunities to see animals and their habitats in new ways. Infrared sensors



may be placed on drones. This allows a type of “night vision” to count wildlife in the dark. There are also sensors that can measure plants on the ground. The types and sizes of plants can be seen without having to hike across the land. This allows managers to get an idea of the quality and amount of food and estimate how many animals may live there.

CAMERAS

Trail Cam Photo: CC-BY Idaho Fish and Game



Trail cameras have allowed people to see animals in new ways, acting naturally in their habitats. Fish and Game is working with universities to develop methods to use cameras to estimate animal populations. Cameras are used when it is impossible or risky to physically count animals in the wild.

Cameras are set up on trees in remote areas where animals are thought to be living. As animals walk by the camera, a motion detector triggers the camera to take a picture. Individual animals can be identified by markings on their bodies. Scientists can estimate the number of animals by setting up cameras in a certain pattern and using computer programs.

Check out this article and [video](#) to learn more about how cameras are being used to monitor wolves in Idaho.

FINDING FISH

Photos: CC-BY Idaho Fish and Game

A great way to get an idea of how salmon and steelhead are doing is to suit-up and get wet. Fish and Game uses snorkel survey crews to belly crawl along the bottom of streams and count the fish they see.

This can be a challenging job. The water is extremely cold, even while wearing a wetsuit. Water currents are swift, and crews work in some very remote locations. Training in First Aide and swift water rescue is a must.

Snorkelers need to be able to tell the difference between different kinds of fish and whether they are adults or juveniles. They also need to estimate the length of fish. If you have ever opened your eyes underwater, you know how water can distort how things look. To ensure snorkel crews are prepared, they go through a

training program. Snorkelers learn to correctly identify different fishes and estimate their length underwater by using laminated fish images attached to rods. It takes practice and time to identify not only salmon and steelhead, but also whitefish, sculpin, trout and other species.



BIRD BANDING

Photo: CC-BY Idaho Fish and Game



One of the earliest methods of tracking animals is bird banding. Beginning around 1595, European falconers started to use bands for identifying their birds. A banded peregrine falcon belonging to the French king, Henry IV, was found on the island of Malta in the Mediterranean Sea. The falcon had flown nearly 1500 miles from its home. The band proved that the bird belonged to the King of France. In 1803, the American artist John James Audubon tied silver threads to the legs of young eastern phoebes. He wanted to know if the birds would return to the same place the next year.

Modern bird banding in the United States began in the early 1900s. In 1920, the Bureau of Biological Survey established what is now the U.S. Geological Survey Bird Banding Laboratory. The goals of the lab were to study and help protect North American birds. Banding birds became an important way to meet these goals. The lab also provided training so scientists could learn to band birds. This training made

sure that scientists were banding the same way, using the same techniques. Banding equipment became standardized. All these things made sure that birds were handled carefully and safely. Today, the lab continues to provide these services. It issues the required banding permits as well. Scientists at the lab also manage all the banding records submitted by banding stations around the country. That totals 77 million records! Every year, nearly 1.2 million new records are added. It is a treasure trove of data for scientists.

How are birds banded?

Most birds are captured using a special net called a mist net. These nets have fine mesh that is stretched between two poles. When a bird flies into the net, it forms a soft pocket around the bird. The net safely holds the bird until the bander comes to remove it. Taking a bird out of a mist net takes patience and great care. As soon as the bird is removed, it is placed in a cloth bag and taken back to the banding station. If the bird flutters in the bag, it cannot get hurt because of the soft fabric.

At the banding station, the bird is removed from the bag and identified. Then it's time for a little bling! A lightweight aluminum band is put on the bird's leg. Sometimes scientists use colored plastic bands to tell individual birds apart. Bird bands come in many sizes. Hummingbird bands are tiny while a band for an eagle might look like a large ring. It is important that the band fits properly, so it does not get in the way of the bird's activities. Each band has a unique number that is recorded by scientists. That number is linked to the bird wearing that band. This keeps all the information about that specific bird, together.

Once the band is on, the bird's wings and tail length are measured. Scientists look for fat under the bird's skin. Fat provides energy to fuel long migratory flights. The bird is also aged. Different feather patterns give clues to the bird's age. Scientists also look at the bird's skull. Like human babies, the skulls of young birds have places where the bones have not yet joined. These can be seen by gently blowing the feathers on the bird's head to see the skull under the skin. Then the bird is weighed. Once all the data has been recorded, the bird is released.

Banded birds that are caught again are called recaptures. These birds help scientists learn where birds move in their habitats or on migration. Catching a recapture is always exciting, especially if it was banded somewhere else. Where did it come from? How far has it traveled? How old is the bird? These are fascinating questions that help scientists learn more about birds.

Why band a bird?

Banding birds gives scientists a lot of information! It can document the kinds of birds living in a specific habitat. Tracking changes in these birds' populations over time can alert scientists to changes in the habitat. This helps scientists do conservation work that helps the habitat stay healthy. Banded birds of the same species help track how the entire population is doing everywhere the species is found. Migration patterns are revealed when birds banded in one location are recaptured in another. Health can be determined by looking at bird weights and measurements. Scientists sometimes collect blood or a feather to look at DNA. This can reveal how the birds in an area are related. It can also help identify diseases and toxic chemicals in the birds' bodies. All these things help scientists work to protect birds and their habitats.

Bird banding continues to be an important way to study birds. Now, however, banding is

often used along with new technologies. Tiny, lightweight radio and satellite transmitters can be attached to birds. Ornithologists, scientists who study birds, can see exactly where a bird moves as it lives in its habitat. The bird's exact migration route can be followed as data is downloaded. Migration patterns of entire species of birds can be revealed. This helps scientists protect habitats where the birds nest, along their migration route and where they spend the winter. Scientists in one country can work with scientists in another. This helps coordinate their efforts to help birds.

Bird banding is cool! It helps us learn so much about birds and their amazing lives. Banding itself is an incredible experience. Once you have held a bird in your hand, you will never forget it.



If you find a banded bird

Waterfowl and upland game hunters often find a banded bird among their harvest. People sometimes find a dead bird with a band on its leg. When a banded bird is found, it is important to report the number on the band. You can do this online by visiting the Bird Banding Laboratory website at www.reportband.gov. Follow the instructions on the website to report what you have found. Once reported, you will receive information about the bird. This will include the species of the bird, its age and where and when it was originally banded. Taking the time to report a band is important and appreciated!

A man in a green uniform and cap is walking through tall, dry grass. A black dog is running alongside him. In the background, there are trees and a body of water.

THE NOSE KNOWS

--about 5 million of them. That sounds like a lot until you learn that a dog has 300 million olfactory receptor cells!

Dog noses are so sensitive that they smell the separate scents that make up an entire smell. When you bake a chocolate cake, you smell a chocolate cake. Your dog smells each ingredient that went into the cake---flour, eggs, butter, chocolate, baking powder, salt, nuts and whatever else you added. Dogs can also smell incredibly tiny amounts of scent. If someone spritzes perfume in your bedroom, you can smell it. But if that same amount of perfume is sprayed at one end of a football stadium, your dog can smell it from the opposite end.

Cool, whiz-bang technology helps wildlife managers learn many things. But sometimes the best technology comes with a wet nose and wagging tail. Since 2010, specially trained dogs have been paired with conservation officers to help solve poaching cases.

Senior Conservation Officer Jim Stirling organized the K9 program. His thorough research helped show how dogs would help with wildlife enforcement efforts. Officer Stirling and K9 Pepper became the agency's first dog-handler team. Their teamwork quickly showed how valuable a K9 team could be for investigations. Fish and Game now has four K9 teams working around the state. Each team is supported by donations given to the Idaho Fish and Wildlife Foundation.

How can a dog help an officer? They sniff-sniff-sniff, finding evidence to solve a wildlife crime. A dog's nose is just amazing! Dogs can smell separately with each nostril. They can also inhale and exhale at the same time. When a dog breathes in, some of the air goes into an inner part of the nose containing olfactory receptor cells. Olfactory means sense of smell. You have olfactory receptor cells in your nose-

Dogs can also smell the hormones and pheromones that people and animals give off. Hormones are chemicals that your body makes. They affect your growth, metabolism and even your mood. They also give you a unique smell. We usually don't notice our own smell, but a dog sure does. This comes in handy if you are lost and a search dog is trying to find you.

Trailing is one of the important things Fish and Game's K9s are trained to do. In fact, one of K9 Pepper's first cases was finding a lost child. The K9s are also trained to find evidence by smell such as bullet casings or shotgun shells. They can sniff out specific species of wildlife. This makes an investigation more efficient. It might take an officer many hours to search an area for evidence. A trained dog can often find evidence much faster just by following his nose.

Fish and Game's K9 teams often attend events like fairs. The dogs enjoy meeting and greeting. It's fun for the officers to show off their dog's skills. The K9s also make officers more approachable. Let's face it, there's nothing quite like a friendly, tail-wagging dog to make people relax and smile!



BE A BIOLOGIST – OUTSIDE!

Photo: CC-BY Idaho Fish and Game

Would you like to study wildlife where you live? Wildlife is found all around Idaho, even in our towns and cities. Here are some ways you can learn about Idaho animals, just like a biologist.

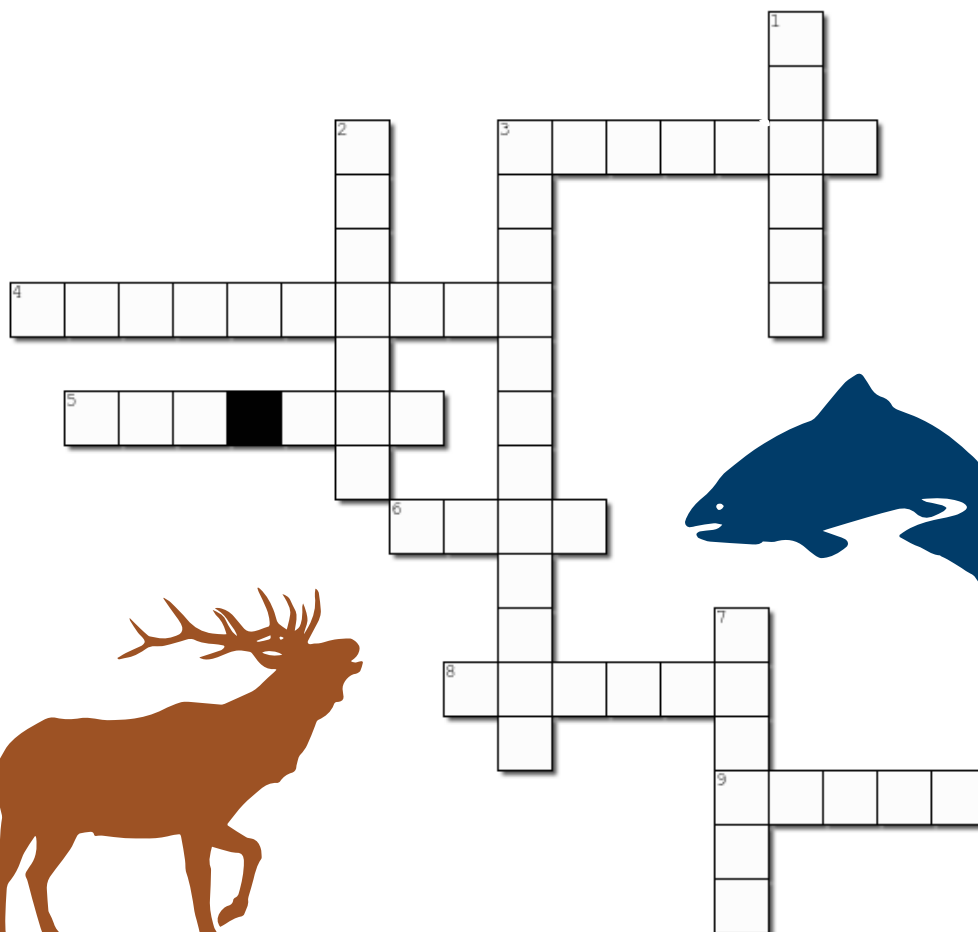
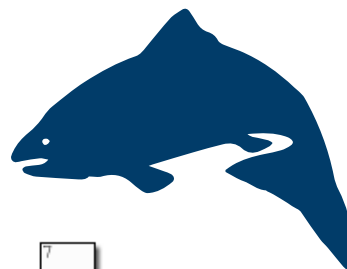
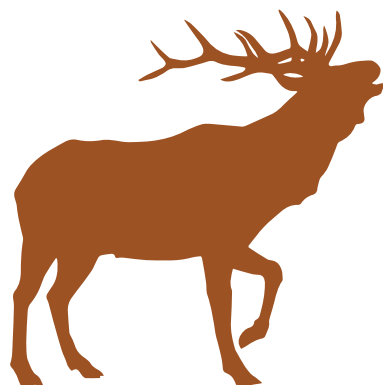
Observe Animals – Bundle up, grab some binoculars and find a quiet place to sit outside. Take a notebook to record wildlife you see and hear. Sit in the same place at different times of the day. Do you notice that some animals are only active at dawn or dusk, while others are out at noon? What might this tell you?

Look for Signs - Winter is a great time to look for animal signs. Footprints are easy to see in newly fallen snow and wet dirt. Bare tree limbs allow you to see nests once hidden. Do you see eaten pinecones or chew marks on plants? Make sketches or take pictures of what you

see and try to identify the animals that left the signs. Then look up the signs in field guides or online to see if you were correct.

Observe Bird Banding - Some bird banding stations occasionally open for the public to observe their banding operations. This is a wonderful way to watch science in action and get to see birds up close. Many visitors are amazed by the variety of birds they get to see. Check with your regional Fish and Game, U.S. Forest Service or U.S. Fish and Wildlife Service offices to learn about banding operations that are open to the public. Residents of the Treasure Valley can contact Boise State University's Intermountain Bird Observatory. This program offers many opportunities for the public to visit its banding operations and learn about birds.

LEARNING ABOUT WILDLIFE



Created using the Crossword Maker on TheTeachersCorner.net

habitat collar scat snares cameras conservation drones PIT tag niche
biologists

Across

3. These are used when it is impossible or risky to physically count animals.
4. People who study and manage wild animals are called wildlife _____.
5. A small electronic tag placed inside an animal's body.
6. An animal clue of the stinky kind.
8. A GPS _____ can track an animal throughout the year.
9. An animal's job in its habitat.

Down

1. Hair _____ grab hairs as animals brush up against them.
2. The word for an animal's home.
3. _____ officers make sure people follow the rules when hunting, fishing and enjoying the outdoors.
7. Infrared sensors may be placed on these to allow people to "see" animals at night.

Wildlife Express

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WE WOULD LIKE TO HEAR FROM YOU!

If you have a letter, poem or question for Wildlife Express, it may be included in a future issue!
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